

2012 - JCR Evaluation Form

SPECIES: Moose

PERIOD: 6/1/2012 - 5/31/2013

HERD: MO545 - SNOWY RANGE

HUNT AREAS: 38, 41

PREPARED BY: WILL SCHULTZ

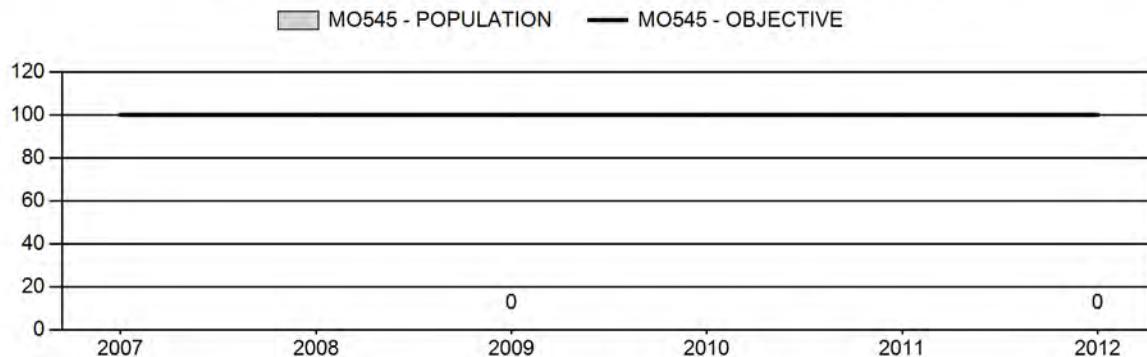
	<u>2007 - 2011 Average</u>	<u>2012</u>	<u>2013 Proposed</u>
Population:	0	N/A	N/A
Harvest:	43	54	60
Hunters:	46	63	60
Hunter Success:	93%	86%	100%
Active Licenses:	46	63	60
Active License Percent:	93%	86%	100%
Recreation Days:	305	464	400
Days Per Animal:	7.1	8.6	6.7
Males per 100 Females	103	129	
Juveniles per 100 Females	45	64	

Population Objective:	100
Management Strategy:	Special
Percent population is above (+) or below (-) objective:	N/A%
Number of years population has been + or - objective in recent trend:	10
Model Date:	None

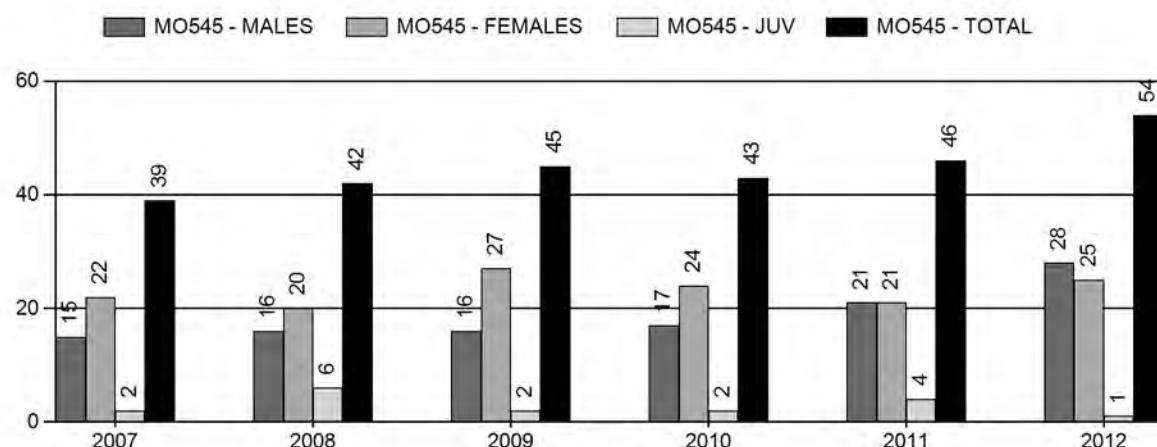
Proposed harvest rates (percent of pre-season estimate for each sex/age group):

	<u>JCR Year</u>	<u>Proposed</u>
Females ≥ 1 year old:	NA%	NA%
Males ≥ 1 year old:	NA%	NA%
Juveniles (< 1 year old):	NA%	NA%
Total:	NA%	NA%
Proposed change in post-season population:	NA%	NA%

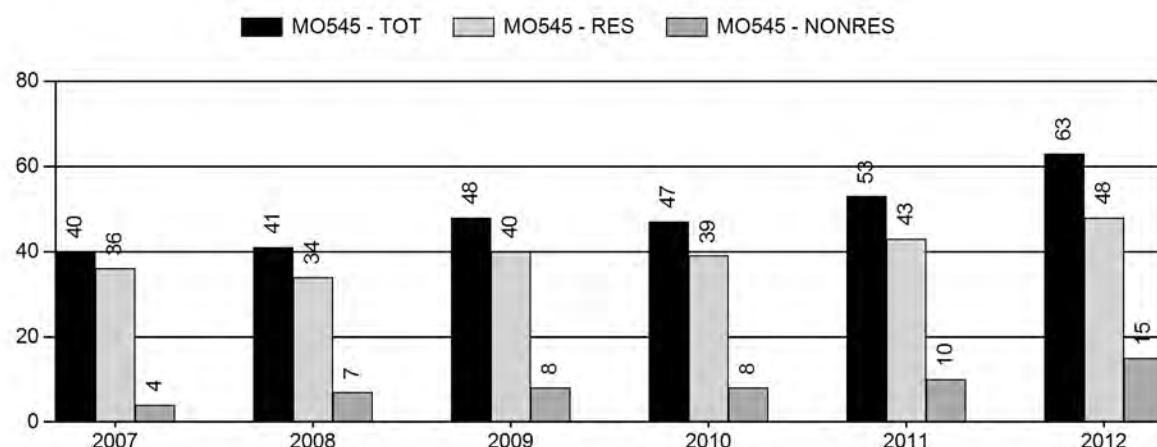
Population Size - Postseason



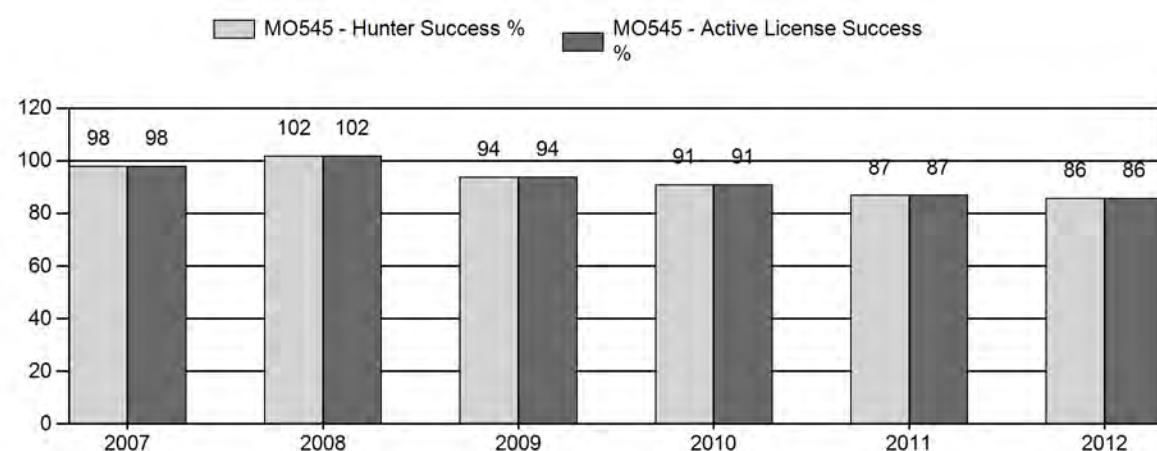
Harvest



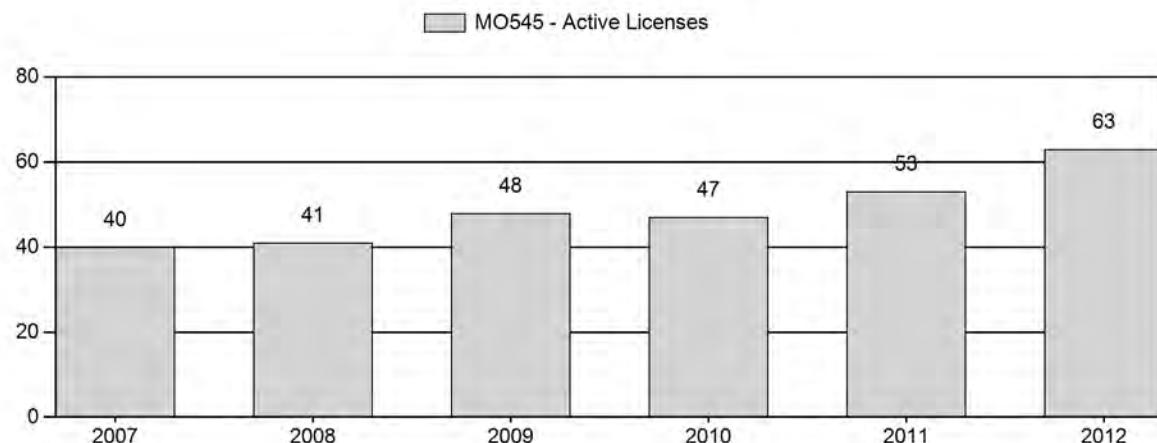
Number of Hunters



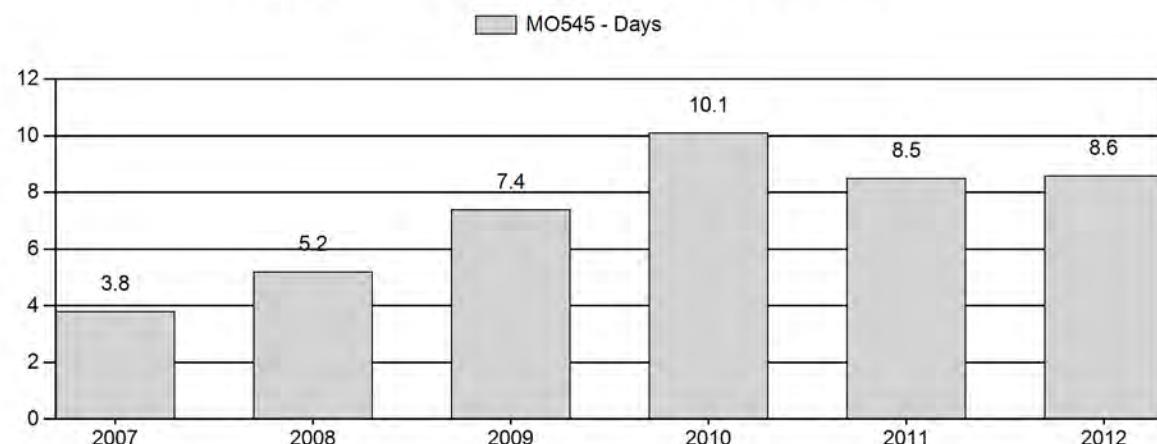
Harvest Success



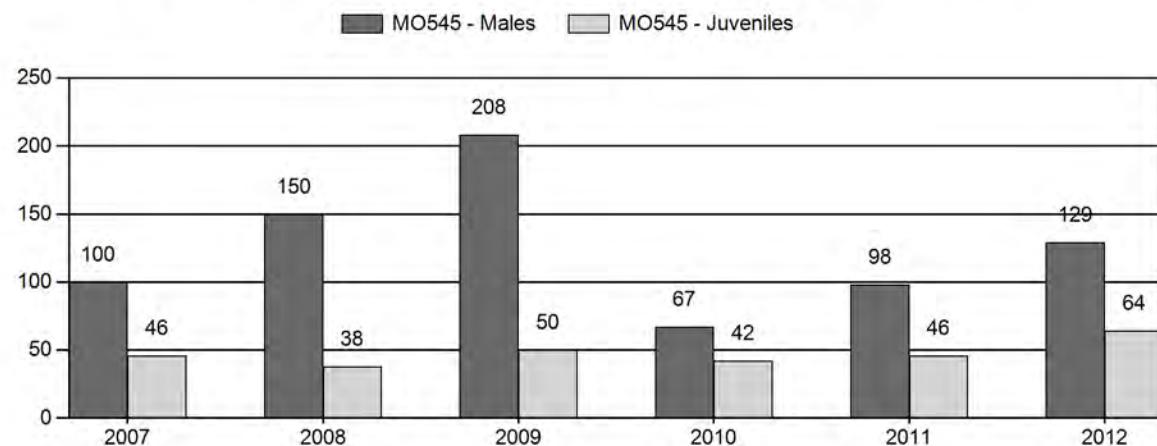
Active Licenses



Days per Animal Harvested



Postseason Animals per 100 Females



2007 - 2012 Postseason Classification Summary

for Moose Herd MO545 - SNOWY RANGE

Year	Post Pop	MALES				FEMALES		JUVENILES		Tot Cls	Cls Obj	Males to 100 Females				Young to		
		YIg	Adult	Total	%	Total	%	Total	%			YIg	Adult	Total	Conf Int	100 Fem	Conf Int	100 Adult
2007	0	3	10	13	41%	13	41%	6	19%	32	152	23	77	100	± 45	46	± 26	23
2008	0	1	11	12	52%	8	35%	3	13%	23	144	12	138	150	± 0	38	± 0	15
2009	0	4	21	25	58%	12	28%	6	14%	43	0	33	175	208	± 0	50	± 0	16
2010	0	7	17	24	32%	36	48%	15	20%	75	0	19	47	67	± 0	42	± 0	25
2011	0	3	46	49	40%	50	41%	23	19%	122	0	6	92	98	± 0	46	± 0	23
2012	0	4	14	18	44%	14	34%	9	22%	41	0	29	100	129	± 0	64	± 0	28

Snowy Range Moose (MO545)
Hunt Areas 38, 41
2013 Hunting Seasons

Hunt Area	Type	Dates of Seasons Opens	Closes	Limited Quota	Limitations
38, 41	1	Oct. 1	Nov. 14	25	Limited quota licenses; any moose, except cow moose with calf at side
	4	Oct. 1	Nov. 14	35	Limited quota licenses; antlerless moose, except cow moose with calf at side

Hunt Area	Type	Quota change from 2012
Herd Unit	1	0
Total	4	0

Management Evaluation

Current Management Objective: 100

Management Strategy: Special

2012 Postseason Population Estimate: NA

2013 Proposed Postseason Population Estimate: NA

Moose in the Snowy Range herd unit are managed toward a numeric objective of 100. A population model has not been developed for this herd unit. The herd is managed under a special management strategy. The objective was last reviewed in 1997.

Herd Unit Issues

The Snowy Range herd unit stretches across southern Wyoming, along the Colorado border, from Baggs to Cheyenne. Moose are found year-round in areas on Pole Mountain, Sierra Madre Mountains, and most notably, the Snowy Range Mountains. These moose all descended from moose transplanted in Colorado and were not native to this area historically. Challenges for managing moose in this herd unit include a rapidly changing forest ecosystem, high infestation rates for parasites, and conflicts with humans.

Weather

Weather in this herd unit was hot and dry during the past year. This weather pattern most likely had a negative influence on moose. For specific meteorological information for the Snowy Range herd unit the reviewer is referred to the following links:

<http://www.ncdc.noaa.gov/temp-and-precip/time-series/>

<http://www.ncdc.noaa.gov/oa/climate/research/prelim/drought/pdiimage.html>

Habitat

Habitat conditions declined in 2012 with a return to drought conditions experienced across the herd unit. Moose habitat conditions are currently being monitored across Wyoming and in the North Park, Colorado area through a University of Wyoming (UW) project. Preliminary results published in a recent annual report for this project indicated the Snowy Range's willow habitat quality and moose fitness were relatively low when compared to the other areas (Jesmer et. al 2012).

Field Data

Traditionally there has been no allocation of funding in this herd unit to collect moose classification data. Moose classification data has been collected incidentally during annual mule deer and elk classification surveys. However, in 2011 an additional 8 hours of helicopter time was allocated to collect moose classification data in the Snowy Range herd unit resulting in the herd unit's largest annual sample of 122 moose. The 2012 postseason classification sample was 40 moose and produced a bull ratio of 128/100 cows. The calf ratio was 64/100 cows.

Harvest Data

In 2012, the weighted harvest estimates indicated 63 hunters harvested 28 bulls, 25 cows and 1 calf (lab data indicated 2 calves). A total of 3 illegally harvested moose were documented this year. Male lab-aged tooth samples ($n=17$) indicated this year's median age and percentage of the bull harvest ≥ 5 years of age, were within the "prime-age bull" class (Figures 1, 2 and 3) (Thomas 2008). Age class distribution from female lab-aged tooth samples ($n=16$) indicated 63% of the antlerless moose harvest were ≤ 2 years old (Figure 4).

Population

A Wyoming Spreadsheet model has not been developed for this herd unit. A population model would only be of value if better annual herd abundance/composition data and, or, better survival data were consistently collected. We assume from observations and harvest data, moose numbers are stable to slightly decreasing in trend.

Management Summary

We propose to maintain harvest opportunity at a level similar to last year. Trophy quality and harvest rates for bull harvest were similar to the past several years' harvest. However, we are not detecting an opportunity for increased bull harvest at this time. Preliminary results from UW research indicate habitat quality is relatively poor in the Snowy Range herd unit. Therefore, we consider it prudent to maintain the current level of harvest opportunities in an effort to insure we are not actively allowing moose numbers to further negatively influence the quality of their habitat.

Figure 1. Median age of bulls harvested for the Snowy Range Moose Herd Unit (MO545), Wyoming 2012.

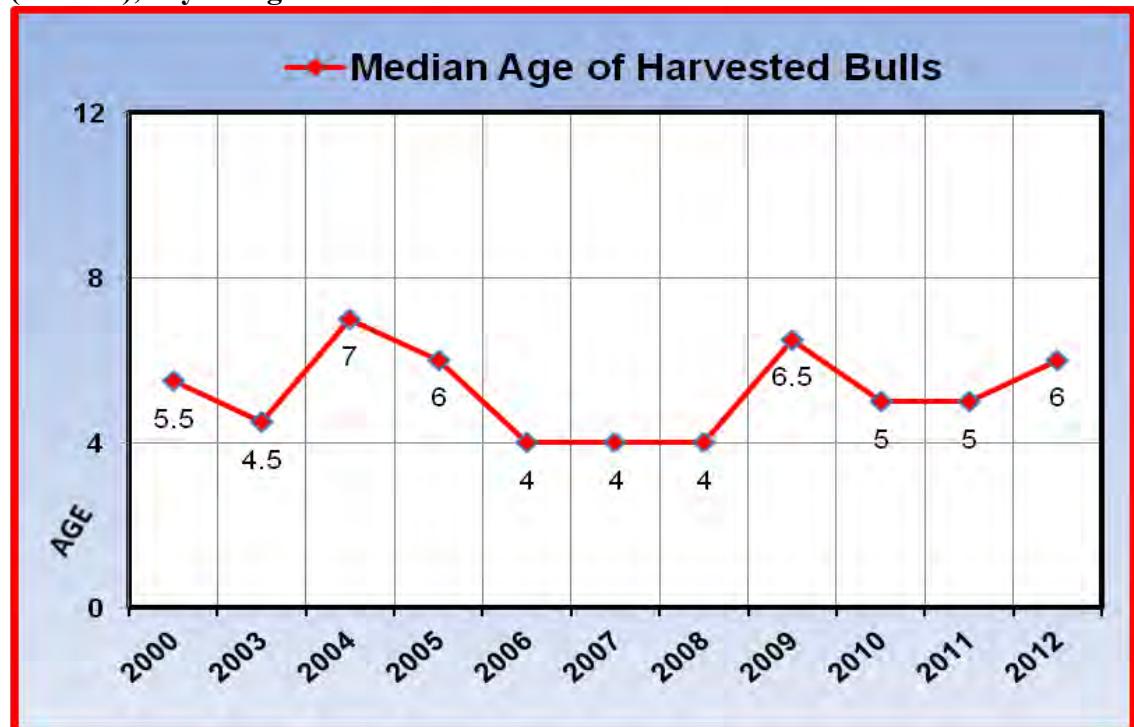


Figure 2. Average (3-year running) median age of bulls harvested for the Snowy Range Moose Herd Unit (MO545), Wyoming 2012.

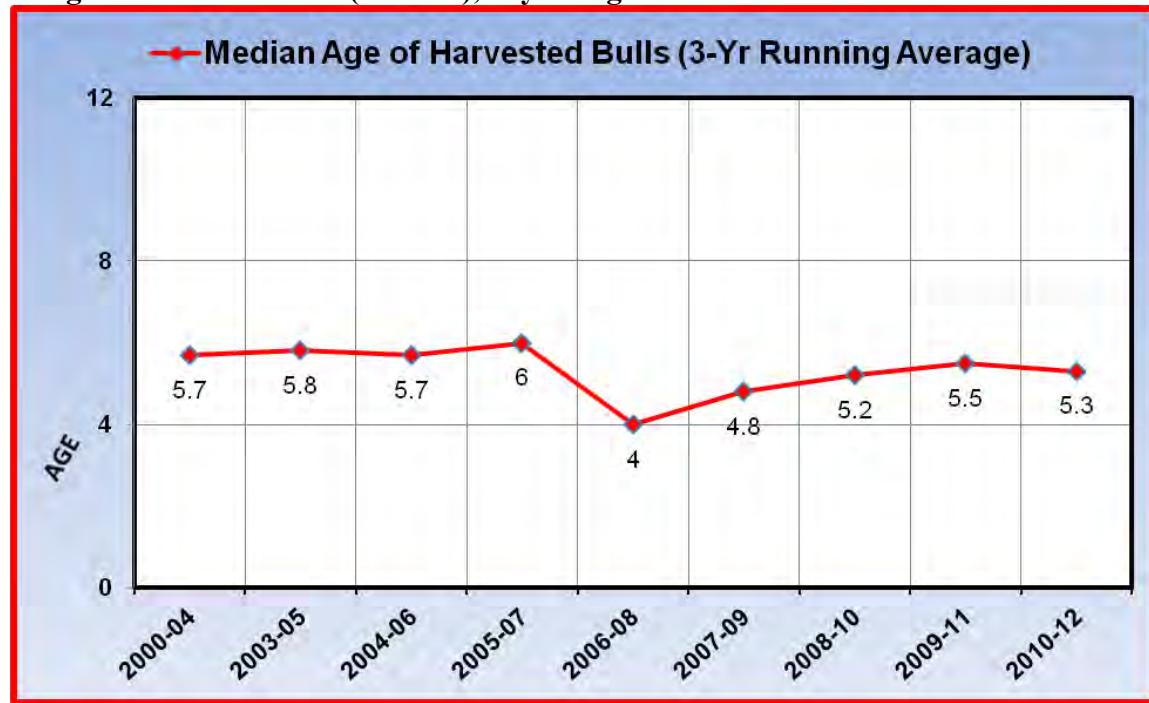


Figure 3. Annual Percentages of the bull harvest \geq 5-years in age from Snowy Range Moose Herd Unit (MO545), Wyoming 2012.

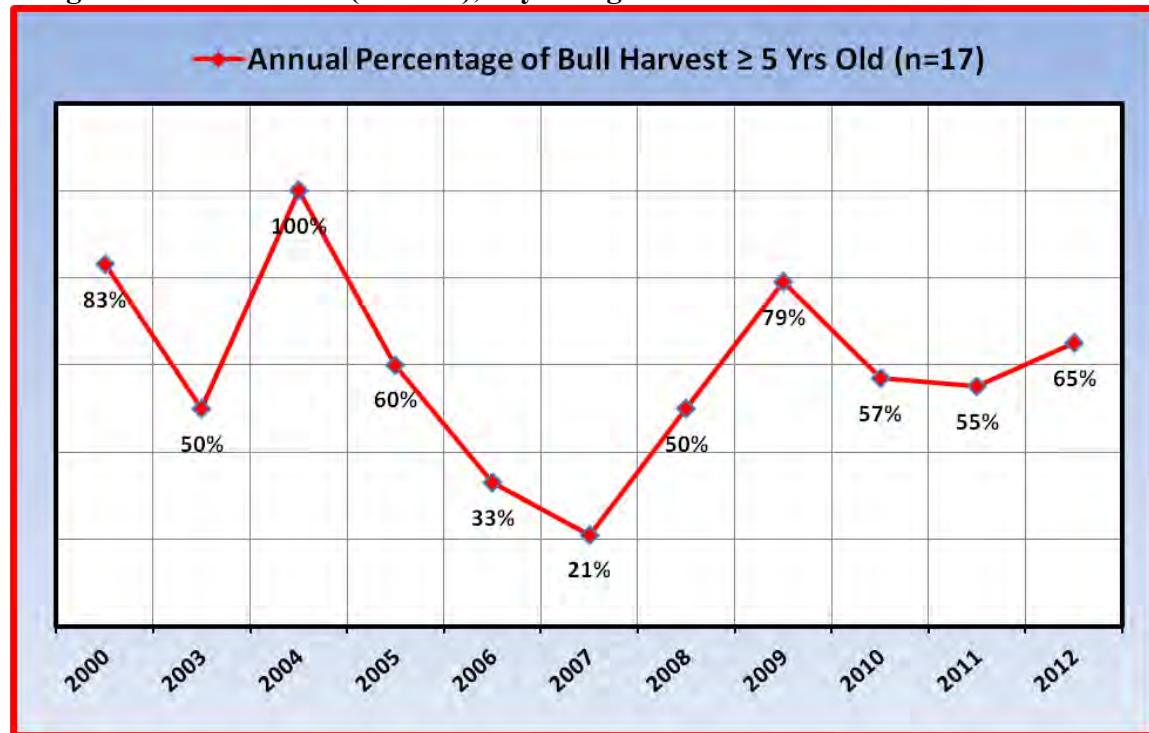
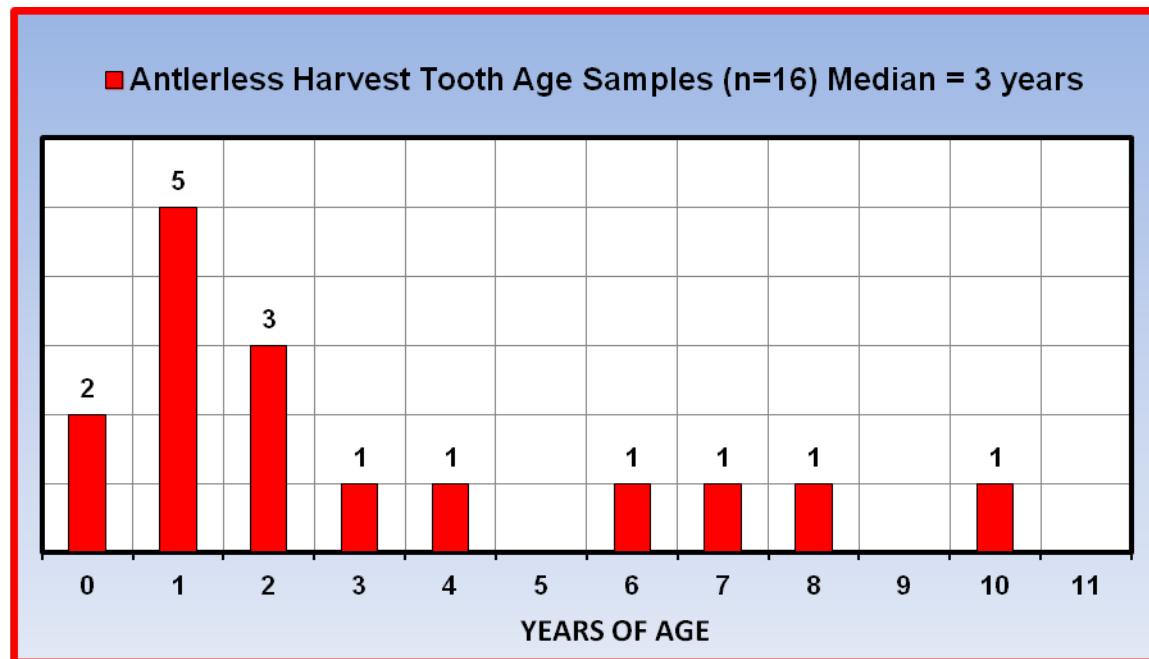


Figure 4. Age class distribution for antlerless moose harvested from Snowy Range Moose Herd Unit (MO545), Wyoming 2012.



Literature Cited

- Jesmer, B., Jacob Goheen, Matthew Kauffman, Kevin Monteith, Aly Courtemanch. 2012. Statewide Moose Habitat Project: Linking Habitat and Nutrition with Population Performance in Wyoming Moose. Annual Report 2012. Department of Zoology and Physiology, University of Wyoming, Laramie. 11pp.
- Thomas, T. P. 2008. Moose Population Management Recommendations. Wyoming Game and Fish Department, Cheyenne. 17 pp.

Bibliography of Herd Specific Studies

- Baigas, P. E. 2008. Winter Habitat selection, winter diet, and seasonal distribution mapping of Shiras moose (*Alces alces shirasi*) in southeastern Wyoming. M.S. Thesis, Univ. Wyoming, Laramie, Wyoming. USA. 220 pp.
- Wyoming Game and Fish Department [WGFD]. 2000. Snowy Range – Sierra Madre Moose Herd Management Plan. Wyoming Game and Fish Department, Laramie. USA. 15 pp.

Moose (M545) -- Snowy Range/Sierra Madre
HA 38, 41
Revised 6/2004

